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$\cos\delta\,\Delta\alpha = +9''$, $\Delta\delta = -22''$.

REYNOLD K. YOUNG.

BERKELEY ASTRONOMICAL DEPARTMENT,
September 11, 1911.

EPHEMERIS OF COMET *c* 1911 (BROOKS).

From the foregoing parabolic elements by Mr. YOUNG an ephemeris to October 29, 1911, has been computed which is published, with the elements, in L. O. Bulletin No. 202. From this ephemeris it appears that the comet, already easily seen with the naked eye, will reach its maximum brightness about the middle of October. Although it passes the Sun in right ascension on October 12, it does not set until two hours after sunset on that date, owing to its more northerly declination. It should therefore be a fairly conspicuous object in the early evening sky until the middle of the month. On October 29th[1] the comet rises more than two hours before the Sun and should be visible in the eastern sky just before daylight.

E. S. HAYNES,
J. H. PITMAN.

September 11, 1911.

NOTE ON THE SPECTRUM OF P *CYGNI*.

P *Cygni* ($\alpha = 20^h\ 14.1^m$, $\delta = 37^\circ\ 43'$, visual magnitude 4.9) is one of the most interesting objects of the sky, spectroscopically. It is easily visible to the naked eye, but offers no peculiarities to direct observation. As its designation indicates, it is technically a new star. It appeared in the beginning of the seventeenth century and after years of marked fluctuation in brightness, settled down to a constant magnitude. No variation at all has been observed since 1677.

Its spectrum, however, still retains some of the features which characterize that of a *nova*. All of the prominent lines are bright, and each has a strong dark, or absorption, line on its more refrangible side. The lines of the elements hydrogen, helium, nitrogen, and silicon appear thus.

Measures made by the writer of five spectrum plates of this star, taken at the Lick Observatory with the Mills three-prism spectrograph attached to the 36″ refractor, show that the bright silicon lines are considerably displaced from their usual position, i. e., their position as determined in the electric spark in the laboratory, and from ordinary stars in which silicon is present. Assuming these ordinary positions, the different elements (bright lines) yield the following radial velocities in P *Cygni*: hydrogen —8.0^{km} per second; helium —7.5; nitrogen —8.3; silicon + 9.5.

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[1] Owing to its northern declination, the comet is already (October 6th) visible in the morning sky, though still east of the Sun.

The silicon lines differ appreciably in appearance from those of hydrogen, helium, and nitrogen. The absorption is relatively broader; the bright portion narrower and weaker, apparently being crowded toward the red end of the spectrum.

It is scarcely possible that silicon is (and has been for years) separating itself from the other elements in this star at the rate of 17^{km} per second. It is well known that pressure and certain electrical conditions affect the appearance and position of spectral lines. Some such cause is probably operative here.

This series of plates, from 1907 to 1911, confirms the result that has been remarked before, that no general change is taking place in this spectrum.

PAUL W. MERRILL.

BERKELEY, September, 1911.

NEW POSITIONS OF STARS IN THE HUYGHENIAN REGION OF THE NEBULA IN ORION.

This work is an extension of the work of G. P. BOND and others on the faint stars in the region of the *Orion* nebula within 300″ of the Trapezium. It was taken up with a view to obtaining accurate positions and studying proper motions independent of that of the Trapezium.

The observations were made with the 26½-inch refractor of the Leander McCormick Observatory. They cover a period of eighteen months beginning with September, 1908. All the observations were made in position angle and distance. With a view to decreasing the errors arising from the measurement of large distances, 628 (θ *Orionis*), 558, 669 and 685, the latter three stars forming a triangle about θ, were adopted as fundamental stars. The position angles and distances of all six combinations of these stars were measured on approximately forty nights. From the mean of these observations differences